

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-15 (Cancelled)

Claim 16. (Previously presented) A method of fabricating a single crystal shape memory alloy having hyperelastic properties, the method comprising the steps of:

providing a molten melt of a copper aluminum based alloy,

pulling a column of the alloy from the melt at a predetermined pulling rate,

applying a predetermined hydrostatic pressure on the column and heating the column to a predetermined temperature, the predetermined pulling rate, hydrostatic pressure and temperature being sufficient to crystallize the alloy in the column into a single crystal, and

quenching the single crystal.

Claim 17. (Previously presented) A method as in claim 16 in which the predetermined temperature is at least about 1000 degrees Celsius, and the quenching step is carried out by quenching from about 850 degrees Celsius.

Claim 18. (Previously presented) A method as in claim 16 in which the compositions of the alloy are substantially 80 percent Cu, 15 percent Al and 5 percent of a metal selected from the group consisting of Ni, Co, Mn, Fe.

Claim 19. (Previously presented) A method as in claim 16 in which the quenching step is carried out by quenching the alloy in salt water.

Claim 20. (Previously presented) A method as in claim 16 in which the single crystal shape memory alloy is for use as a guidewire in medical procedures, the step of pulling the column is

sufficient to form a length of wire, and grinding the surface of the wire to a diameter in the range of from 0.012 inches to 0.039 inches.

Claim 21. (Previously presented) A method as in claim 16 in which the grinding step is carried out by centerless grinding of the surface.

Claim 22. (Previously presented) A method as in claim 20 and further comprising the step of electropolishing the wire to a smoothness of less than 0.0001 inches.

Claim 23. (Previously presented) A method as in claim 20 and further comprising the step of coating the surface of the wire with a material selected from the group consisting of gold, a biocompatible plastic, and a biocompatible polymer.

Claim 24. (Previously presented) A method as in claim 20 and further comprising the step of coating the surface of the wire with a lubricant.

Claim 25. (Previously presented) A method as in claim 20 and further comprising the step of etching a portion of the surface of the wire in a mixture of hydrofluoric acid and nitric acid in amounts which reduce the diameter of the wire sufficient to increase the flexibility of the portion.

Claim 26. (Previously presented) A method as in claim 16 in which the step of pulling the column is carried out by pulling a hollow cross-sectional elongated shaped column.

Claim 27. (Previously presented) A method as in claim 20 in which the column has an outer layer comprised of CuAlNi polycrystal, and further comprising the step of removing the polycrystal in the outer layer.

Claims 28 – 49 (Cancelled)